BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 11-206
1 DECEMBER 1996

Flying Operations

★*GENERAL FLIGHT RULES*

COMPLIANCE WITH AIR FORCE INSTRUCTIONS IS MANDATORY

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This instruction implements AFPD 11-2, *Flight Rules and Procedures*, by prescribing general flight rules that govern the operation of Air Force aircraft flown by Air Force pilots, pilots of other services, foreign pilots, and civilian pilots. It applies to Air Force activities operating aircraft on loan or lease, to the extent stipulated in the loan or lease agreement; Air Force Reserve (AFRES) units; and to Air National Guard (ANG) units. Address questions concerning this instruction to Headquarters Air Force Flight Standards Agency, 1535 Command Drive, Suite D-309, Andrews Air Force Base MD 20762-7002. See attachment 1 for a list of references, abbreviations, acronyms, and terms.
NOTE: The reports in this directive are exempt from licensing according to AFI 37-124, *The Information Collections and Reports (ICR) Management Program.*

SUMMARY OF REVISIONS

This AFI has changed significantly in both content and in organization. These changes include: an effort to simplify guidance; incorporation of previous notes; and items addressing and clarifying areas identified by accident investigation boards. This AFI should be carefully reviewed by those responsible for complying with the guidance provided in it.

Supersedes AFI 11-206, 25 July 1994.
OPR: HQ AFFSA/XO (Capt Michael Wolter)

Certified by: HQ USAF/XO (Lt Gen John P. Jumper)
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Chapter 1

GENERAL INFORMATION

1.1. General.

1.1.1. **Pilot in Command Authority.** The Pilot in Command (PIC) is responsible for, and is the final authority as to, the operation of the aircraft.

1.1.2. This AFI is a common source of directives including:

- Air Force specific guidance.
- Federal Aviation Regulations (FARs), primarily FAR Part 91.
- ICAO Standards and Recommended Procedures (SARPs).

1.1.3. This AFI provides necessarily broad guidance and cannot address every conceivable circumstance. PICs are expected to use their best judgment to ensure the safe conduct of the flight.

1.2. Compliance.

1.2.1. The PIC will ensure compliance with the following:

- This AFI and its MAJCOM supplements.
- The FARs when operating within the United States including the airspace overlying the waters out to 12 miles from the U.S. coast, unless the FAA has excluded military operations.
- ICAO SARPs in international airspace over the high seas, military mission permitting.
- The specific rules of each individual nation as published in Flight Information Publications (FLIP) planning documents and the Foreign Clearance Guide (FCG). Theater commanders must ensure that the contents of FLIP accurately indicate the rules of each nation within their area of responsibility that differ from this instruction.
- ICAO SARPS when operating in a nation whose rules are not published.
- Procedures and special notices in FLIP, Notices to Airmen (NOTAMs), aircraft technical orders, Air Force directives, MAJCOM directives, and air traffic control (ATC) instructions. (See attachment 1 for related publications.)

1.2.2. MAJCOM Supplements. The following restrictions apply to supplements to this AFI:

- Supplementing this AFI in other documents such as MCIs is not authorized.
- MAJCOMs supplements may not be less restrictive than this instruction.
- MAJCOM supplements must be coordinated with HQ AFFSA prior to publication. Submit supplements for coordination to HQ AFFSA, 1535 Command Drive, Suite D-309, Andrews AFB MD 20762-7002.

1.3. Waivers. HQ AFFSA will authorize waivers to this instruction only when:

- Compliance with this instruction is creating a hazard.
- An essential MAJCOM requirement makes a waiver necessary.

1.3.1. MAJCOM Commander Waiver Authority. MAJCOM commanders may authorize a waiver to this instruction without prior approval from HQ AFFSA, if doing so is "essential to the defense of the United States" because of a military emergency or an urgent military necessity. MAJCOM commanders will notify HQ AFFSA of their intention to do so.

1.3.2. Waiver Process. AFFSA will provide only written waivers. Units requiring a waiver to this AFI will follow the procedure listed below:

- Units will forward their request for a waiver to this instruction through their chain of command to their MAJCOM. The unit must include a detailed package supporting the request.
- MAJCOMs will review the request. If approved, MAJCOMs will endorse the request and forward it to HQ AFFSA/XO.
- HQ AFFSA will conduct a review and respond in writing to the MAJCOM.
- All approvals will include an expiration date.

1.3.3. FAR Exemptions and Authorizations. MAJCOMs will obtain FAA exemptions or authorizations only through HQ AFFSA.

1.3.3.1. MAJCOMs will follow the procedures outlined in paragraph 1.3.2.

1.3.3.2. MAJCOM commanders may, for operations subject to the Federal Aviation Regulations (FARs) only, unilaterally authorize deviation from air traffic rules without a waiver from HQ AFFSA or an exemption from the FAA, if it considers the deviation "essential to the defense of the United States" and there is no time to obtain approval from HQ AFFSA and the FAA. The MAJCOM will notify HQ AFFSA and the FAA of its military intentions prior to deviating from the flight rules. The notice should be given at the earliest time practicable.

1.3.4. An ATC clearance is not authority to deviate from this instruction.

1.4. Deviations. A PIC may deviate from any flight rule only when:
- An in-flight emergency requires immediate action.
- Deviation is required to protect lives.
- When safety of flight dictates.

1.4.1. Notification. When deviating from an ATC clearance, the PIC will notify air traffic control of the action taken as soon as possible.
1.4.2. Post Flight Actions. The following post-flight actions shall be taken in the event of a deviation from a flight rule:
- The PIC will verbally report the deviation to their immediate supervisor and commander within 24 hours of the incident.
- The PIC shall make a detailed written record.
- The unit will keep a copy of that record and be prepared to provide that record to the appropriate authority investigating deviations IAW the AFIs listed in paragraph 1.4.3.

1.4.3. Violations. A violation may result when an Air Force aircraft deviates from flight rules. FAA air traffic control facility deviation reports involving a Air Force aircraft are processed IAW AFI 13-201, *US Air Force Airspace Management*. Air Force air traffic control facility deviation reports involving Air Force aircraft, are processed IAW AFI 91-202 *Hazardous Air Traffic Report (HATR) Program*. Violations that occur in the airspace of foreign nations are handled IAW the procedures of that nation.
1.4.3.1. The names of the crew will not be released to non- USAF agencies without the permission of the Air Force Representative to the FAA (AFREP) coordinating the investigation.

1.5. Dimensional Unit. Except for visibility distances (statute miles (SM)) and when otherwise indicated, all distances referenced in this instruction are in nautical miles (NM).

1.6. Improvement Recommendations. Use AF Form 847, **Recommendation for Change of Publication (Flight Publications)**, to recommend changes IAW AFI 11-215, *Flight Manuals Procedures*.

1.7. Disposition of Records. Dispose of records accumulated under this instruction IAW AFMAN 37-139, *Records Disposition Schedule*.

Chapter 2

PREFLIGHT REQUIREMENTS

2.1. Preflight Planning. The PIC will ensure that aircrew members know the appropriate procedures and have applicable information available to them for the intended operation. These shall include, but are not limited to:
- Appropriate sections of the aircraft technical order (T.O.).
- NOTAMs.
- FLIP.
- Alternatives available if the flight cannot be completed as planned.
- Departure, enroute, destination, and alternate weather observations and forecasts.
- Fuel requirements.
- Minimum safe altitudes for the planned route and terminal area.
- Takeoff and landing limitations.
- The Airfield Suitability Report, when appropriate.
- The Summary of Airfield Restrictions, when appropriate.

2.1.1. Publications. The PIC will ensure that current copies of the appropriate FLIP enroute supplement, enroute charts, Flight Information Handbook, and appropriate approach procedures are aboard the aircraft.
2.1.2. Stopover Flights. The PIC will:
- Ensure the entire flight is planned to its final destination in the greatest detail possible for each leg of the flight.
- Before departing each intermediate stop, obtain the latest weather and NOTAM information available for the intended route, destination, and alternate.

2.2. Fuel Requirements.

2.2.1. General Information. The PIC will ensure sufficient fuel is available on board the aircraft to comply with the requirements of this instruction and safely conduct the flight. Before takeoff or immediately after in-flight refueling, the aircraft must have enough usable fuel aboard to complete the flight:

- To a final landing, either at the destination airport or alternate airport (if one is required), plus the fuel reserve.
- To or between air refueling control points (ARCP) and then to land at the destination (or a recovery base, if refueling is not successful), plus the fuel reserve.

2.2.2. Alternate Airport. When an alternate is required the weather conditions at the original destination govern the preflight fuel computation.

- Fuel required for an approach and missed approach must be included in the total flight plan fuel, when the visibility-only weather criteria in paragraph 8.3.3.1.2 is used to determine the suitability of the original destination.
- Fuel required for an approach and missed approach is not required when the ceiling and visibility criteria in paragraph 8.3.3.1.3 is used to determine the suitability of the original destination.

2.2.3. Fuel Reserve. The PIC must ensure the aircraft is carrying enough usable fuel on each flight to increase the total planned flight time between refueling points by 10 percent or 20 minutes, whichever is greater. To compute fuel reserves:

- For reciprocating engine-driven aircraft and helicopters, use fuel consumption rates for normal cruising altitudes.
- For turbine-powered aircraft, use fuel consumption rates that provide maximum endurance at 10,000 ft.
- If the MAJCOM authorizes holding (instead of an alternate airport) for a remote or island destination, do not consider the prescribed holding time as part of the total planned flight time for computing fuel reserve.

2.2.4. Flight Logs. The following are the approved types of flight logs:

- AF Form 70.
- MAJCOM approved form.
- Navigator's flight log.
- Computer generated flight log produced with MAJCOM approved flight planning software designed to support mission planning for specific aircraft.
- Flight planning computations annotated on a navigation chart.

2.2.5. Minimum Fuel Advisory. When operating in FAA airspace, pilots will declare minimum fuel to the controlling agency when in their judgment the aircraft may land at the intended destination with less than the required fuel reserve.

2.3. Weather. PICs will obtain sufficient weather information to safely conduct their flight and comply with this instruction. The following weather sources are authorized:

- US Military Weather Services.
- MAJCOM approved weather sources listed in the supplement to this instruction.

2.3.1. Alternative Method. If there are no possible means of obtaining weather from the above sources, pilots may fly in Visual Meteorological Conditions (VMC) conditions to a point where contact can be established with an authorized weather source.

2.4. Briefings. The PIC must ensure each crewmember and passenger is briefed on items that affect safety or mission completion. Passenger briefings will include, but need not be limited to:

- Emergency procedures.
- Life support systems and equipment information (see paragraph 6.1.2).
- Precautions and restrictions.
- Special procedures and instructions for use during training, formation, or operational missions.
- Prohibitions listed in paragraph 2.5.

2.4.1. Printed Information Guides. MAJCOMs will on all passenger-carrying aircraft, supplement verbal briefings with printed information guides for passenger use.

2.5. Prohibitions. The following prohibitions apply to each passenger and crewmember aboard an Air Force aircraft:

2.5.1. Electronic Devices. This section provides guidance on the use of electronics devices in flight.

2.5.1.1. Portable Transmitting Devices. Portable transmitting electronic devices will be turned off and stowed from the time the aircraft leaves its parking spot for departure until clear of the runway after landing. Examples of these devices are cellular phones, Citizen's Band (CB) radios, or other hand-held radios.

2.5.1.2. Portable Non-transmitting Devices. The following non-transmitting devices are permitted above 10,000 ft AGL with authorization from the PIC. The PIC will prohibit operation of any device that is suspected of creating interference.

- Audio and video recorders and playback devices.
- Computers, peripherals, and electronic entertainment devices.

- Radio receivers.

2.5.1.2.1. Public Affairs Exception. MAJCOMs may authorize the use of electronic recording equipment below 10,000' AGL when required for a Public Affairs mission involving civilian media personnel. The following restrictions apply:

- The PIC will be fully briefed on what equipment will be used and when.
- Aircraft flying below 10,000' AGL will maintain Visual Meteorological Conditions (VMC), when the equipment is operating.
- Any crewmember may order the equipment turned off for any reason.
- The equipment must be turned off if any interference is detected by the crew.
- MAJCOMs may delegate approval authority to the Wing Commander/Wing Commander equivalents.

2.5.1.2.2. USAF organizations providing electronic support to Public Affairs will adhere to the requirements of paragraph 2.5.1.4.

2.5.1.3. Authorized Devices. The following devices are authorized anytime:

- Hearing aids.
- Heart Pacemakers.
- Electronic watches, hand-held non-printing calculators, portable tape players that do not have a recording capability (such as Walkmans, etc.).
- Equipment certified IAW 2.5.1.4.

2.5.1.4. If mission requirements dictate the operation of non-transmitting portable equipment during any phase of flight or operation of a device not included in 2.5.1.3., the equipment or device must meet RE102 and CE102 requirements of MIL-STD-461D, or methods, when tested according to MIL-STD-462D. The PIC must be aware that the equipment is operating. Technical guidance and data evaluation is available from ASC/ENAI, 2450 D. St. Ste 2 WPAFB OH 45433-7630, DSN 785-5078 Ext. 3012.

2.5.2. Hazardous Cargo. The PIC is responsible for compliance with AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Materials*, when transporting hazardous cargo on Air Force aircraft.

2.5.3. Transport of Drugs. The PIC will not allow the transport of narcotics, marijuana, or other dangerous drugs on the aircraft unless such transport has been approved by a US military, Federal, or State authority.

2.5.4. FOD Hazards. MAJCOMs will provide guidance on the wearing of wigs, hair pieces, ornaments, barrettes, pins, clips, other hair fasteners, or earrings in the aircraft or on the flight line. MAJCOMs must develop procedures to ensure crewmembers and passengers wearing these items do not create a foreign object damage (FOD) hazard.

2.6. Equipment Required for Flight.

2.6.1. Flight Instrumentation. Primary flight instrumentation must provide full-time display of attitude, altitude, and airspeed information and the capability to recognize, confirm, and recover from unusual attitudes. Information must be positioned and arranged in a manner that enables an effective pilot cross-check. The following flight instrumentation must always be displayed in USAF cockpits, and illuminated during night operations. Standby or emergency instruments do not fulfill this requirement.

- Climb/Dive Angle (or pitch and vertical velocity).
- Bank Angle.
- Barometric Altitude.
- Indicated or Calibrated Airspeed.
- Prominent Horizon Reference.
- Complete Fault Indications (Off flags).

2.6.1.1. Electronic Flight Displays. Many modern instrument displays allow the pilot to optimize cockpit instrumentation for a particular mission by decluttering, removing or relocating presentations. In some cases, a pilot can omit elements necessary for basic attitude awareness and aircraft control. Regardless of the type aircraft, mission, or mission phase, attitude awareness and paragraph 2.6.2 instrumentation are a full-time Air Force mission requirement.

2.6.1.2. Single Medium Displays. A single medium display is a Head-Up (HUD) or Head-Down Display (HDD) presenting flight instrumentation on a single display such as a HUD combiner or "glass" multi-function display. Some single medium displays, including many HUDs, do not provide sufficient attitude cues to enable a pilot to maintain full-time attitude awareness or recover from some unusual attitudes. In addition to meeting the instrumentation requirements of paragraph 2.6.2, single medium displays must also receive HQ USAF/XOO endorsement as a Primary Flight Reference (PFR) before they are used as the sole source or stand alone reference for instrument flight.

NOTE: HQ USAF/XOO is the final approval authority who determines which single medium displays meet the requirements for a primary flight reference. MAJCOMs shall forward endorsement requests through the Joint Cockpit Office (WL/XPK), Wright-Patterson AFB, and HQ AFFSA to HQ USAF/XOO.

2.6.2. Instrument Flight Rules (IFR). For flights that operate under IFR, the aircraft must have a two-way radio communication system and navigation equipment compatible with the facilities used for the airspace where the operations occur.

2.6.3. Instrument Meteorological Conditions (IMC). Flights conducted in IMC also require:

- Operative pitot heat.
- Operational anti-icing and/or de-icing equipment designed to cope with the type and severity of known or forecast icing conditions, and ensure safe operation of the aircraft, except for brief exposures when climbing or descending to an operating altitude above or below the icing condition.

2.6.4. Night Flight. In addition to the requirements of paragraphs 2.6.1, 2.6.2, and 5.16, a pilot must not operate an aircraft at night unless it is equipped with operative cockpit instrument lights. Each crewmember must carry an operable flashlight.

Chapter 3

FLIGHT PLANS AND PASSENGER MANIFESTS

3.1. Flight Plans.

3.1.1. Flight Plan Requirement. The PIC will file a flight plan for any flight in an Air Force aircraft.

3.1.2. Authorized Flight Plan Forms. The following flight plan forms are authorized:

- Those listed in FLIP GP Chapter 4.
- Host nation required form.
- A MAJCOM-approved form for local area flights that end at either the base of departure or at an installation under the operational control of the base of departure.
- A MAJCOM-approved form for flights outside the local area that meets the minimum flight plan information required by the controlling agency.

3.1.3. Procedures for Units Without a Base Operations. When the written flight plan form is not processed through base operations, the flying unit must have a written agreement with the local chief of airfield management outlining the procedures for handling flight movement messages and identifying the agency responsible for flight following.

3.1.4. Flight Plan Changes. A PIC may make changes to a route or destination not shown on the original flight plan without refiling provided:

- The change does not penetrate an ADIZ.
- The controlling ATC agency approves the change for an IFR flight.
- The PIC ensures the facility providing flight following is notified of the change. Failure to ensure a FSS (or its equivalent in an overseas area) is aware of the change may result in erroneous search and rescue service, or an unannounced arrival at the destination base.
- The change complies with applicable national rules in an overseas area.

NOTE: The format for making changes can be found on the inside back cover of the DoD enroute supplements.

3.1.5. Nonmilitary Installation Procedures:

3.1.5.1. FSS or ATC Facility Available. Pilots will file a flight plan with a FSS or ATC facility, if available.

3.1.5.2. No FSS or ATC Facility Available. When no FSS or ATC facility is available, the pilot will contact the agency responsible for command and control of the mission prior to takeoff and:

- Have them file your flight plan.
- If they are unable to file for you, provide a detailed description of your intended flight to ensure flight following.

3.1.5.2.1. Once airborne, pilots will remain clear of ADIZ/Buffer Zones, adhere to Visual Flight Rules, contact a FSS or ATC facility and:

- Confirm your flight plan has been filed.
- If the command and control agency was not able to file for you, file a flight plan.
- Pick up your clearance.

3.1.5.3. Destination Notification. The PIC will contact the nearest FSS or equivalent as soon as practicable after takeoff and request the destination be advised of the departure time. This will ensure that aircraft do not arrive unannounced at the destination.

3.1.6. Closing the Flight Plan. The PIC will close an activated flight plan through a FSS or ATC facility by any means of communication available. Long distance telephone service may be used (collect if necessary).

3.2. Passenger Manifests. The following procedures apply to passenger manifests.

- List passengers on DD Form 2131, **Passenger Manifest,** or MAJCOM approved form authorized in the MAJCOM supplement to this instruction.
- File a copy of the crew list and/or passenger manifest with the flight plan. If this is not possible, leave a copy with a responsible person at the departure location. Prior to departure notify the agency responsible for command and control of the mission of the name of the person or agency where the manifest is being held.
- If there are unscheduled changes in the crew list or passenger manifest, send the changes to the facility that processed the original manifest or flight plan, or leave the changes with a responsible person at the location where the change is made. If the changes aren't made with the original facility, then prior to departure, notify the agency responsible for command and control of the mission of the name of the person or agency where the changes to the manifest are being held.

Chapter 4

FLIGHT AUTHORIZATION, APPROVAL, AND CLEARANCE AUTHORITY

4.1. Flight Authorization. Flights in Air Force aircraft will be authorized in accordance with AFI 11-401, *Flight Management*.

4.1.1. Pilot in Command. The Pilot in Command must be current and qualified in the aircraft to be flown or under the supervision of an instructor pilot.

4.2. Approval Authority.

4.2.1. The individual designated in the Flight Authorization as the PIC is the approval authority for the flight with the following exceptions:

- Flying unit commanders will approve flights from installations under their operational control by student or other pilots who do not have their own approval authority.
- Flying unit commanders will approve flights by fixed wing aircraft to or from other than established landing surfaces, such as highways, pastures, etc.

4.2.2. Flight Plan Signature. The PIC will sign the flight plan. The signature (or act of filing by a means that precludes signing, such as by phone, radio, or computer) is evidence of approval and means:

- The flight was properly ordered and released.
- Current NOTAMs, weather, and other pertinent flight data was obtained.
- The flight will be conducted according to governing directives.
- The flight plan has been reviewed for completeness and accuracy.
- Foreign clearance briefings have met the minimum requirements of the FCG.
- The Formation Lead ensured each member of the formation flight was briefed on all pertinent aspects of the planned flight, and the PIC of each aircraft in the formation possesses an instrument rating (Army and Navy Special and Instrument Ratings, and FAA Instrument/ATP ratings meet this requirement) if any portion of the flight is to be conducted under IFR.
- The PIC is aware of the responsibility for safety of the aircraft or formation and its occupants.
- The flight complies with the scheduling and coordination procedures specified for Special Use Airspace in FLIP AP/1A or Military Training Routes in FLIP AP/1B.
- The flight complies with ADIZ restrictions published in FLIP and NOTAMs.

4.3. Additional Approval and Requirements.

4.3.1. (P) Fields. MAJCOMs may prescribe which Air Force aircraft can file to or land at CONUS civil (P) airports.

4.3.1.1. In the absence of MAJCOM guidance, pilots must not file to or land fixed-wing Air Force aircraft (other than C-designated aircraft - i.e., C-130, C-21, etc.) at CONUS civil (P) airports except:

- In an emergency.
- When necessary in the recovery of active air defense interceptor aircraft.
- When this instruction requires an alternate airport and no suitable military airport is available.
- When the wing commander or higher authority approves the flight and the airport manager grants permission in advance.
- When FLIP classifies the airport of intended landing as a joint-use field (for example, ANG and civil) and airport facilities or ground support equipment can support the aircraft concerned.

4.3.2. Volume Training, Civil Fields. Flying units shall coordinate with the appropriate civil airport authorities (for example, tower, approach control, etc.) before conducting volume training at civil airports.
4.3.3. Volume Training, Airways. Flying units that must conduct volume training along or through airways, shall coordinate with the appropriate ATC agency.
4.3.4. Off-Station Training Flights. Commanders will ensure that all off-station training flights meet valid training requirements and will present a positive image of the Air Force.

4.4. Clearance Authority.
4.4.1. IFR Flight in Controlled Airspace. The PIC shall ensure that an ATC clearance is obtained before departing on an IFR flight in controlled airspace.
4.4.1.1. Uncontrolled Airspace. The PIC is the clearance authority in uncontrolled airspace.
4.4.2. VFR Flights. When flying VFR, the PIC must adhere to the clearance requirements for the class of airspace in which they intend to operate as published in FLIP.

4.5. Complying With ATC Clearances and Instructions:
4.5.1. The PIC will ensure compliance with ATC clearances or instructions unless:
- An amended clearance is obtained.
- An emergency exists.
- Deviation is required in response to a Traffic Alert and Collision Avoidance System (TCAS) resolution advisory (RA).
- Deviation is necessary to ensure safety of flight.

4.5.1.1. Notify ATC as soon as possible if a deviation for an emergency or TCAS RA is required.
4.5.2. Pilots shall not follow an ATC clearance or instruction meant for another aircraft.

4.6. Complying With International Procedures. PICs will ensure compliance with the international procedures in FLIP GP, Area Planning, and the FCG. In addition, the PIC will:
- Expand preflight and postflight aircraft checks on all flights with a destination other than the country of departure. These checks should include likely areas aboard the aircraft where drugs/contraband may be concealed and the manifest of all personnel and cargo.
- Immediately report any suspected customs deviations to the proper authorities.

Chapter 5

GENERAL FLIGHT RULES

5.1. Operational Standards.
5.1.1. Reckless Flying. The PIC is responsible for ensuring that the aircraft is not operated in a careless or reckless manner or which could endanger life or property.
5.1.2. Off-Station Training. PICs will ensure that all off-station training activities meet a valid training requirement, present a positive image of the Air Force and do not present an image of waste and abuse of government resources.
5.1.3. Unauthorized Flight Demonstrations. Unauthorized or impromptu flight demonstrations, maneuvers, or "fly-bys" are prohibited.
5.1.4. Flying While Under the Influence. A person must not act as a crewmember of an aircraft:
- While under the influence of alcohol or its aftereffects. Aircrew shall not consume alcoholic beverages during the 12-hour period prior to takeoff.
- While under the influence of or using a drug that affects the ability to safely perform assigned duties. Aircrew may not self-medicate except IAW AFI 48-123, *Medical Examinations and Standards*.
- If physical condition is suspect or known to be detrimental to safety.

5.1.5. Transporting Passengers Under the Influence. The PIC will ensure personnel suspected to be under the influence of intoxicants or narcotics are not allowed to board an Air Force aircraft except:
- In an emergency.
- When in patient status under proper care or when exceptional circumstances exist and no compromise of safety is anticipated.

5.1.6. Crew at Their Stations. Crewmembers must occupy their assigned duty stations from takeoff to landing, unless absence is normal in the performance of crew duties, or in connection with physiological needs.

5.2. See and Avoid. Pilots operating in visual meteorological conditions, under IFR or VFR, whether or not under radar control, are responsible to see and avoid other traffic, terrain, and obstacles.
***NOTE*:** ATC only provides separation between IFR and participating VFR aircraft operating within controlled airspace. Standard IFR separation is provided to all aircraft operating under IFR in controlled airspace.

5.3. Proximity of Aircraft. PICs must not allow their aircraft to be flown so close to another that it creates a collision hazard. Use 500 ft of separation (well clear) as an approximate guide except for:
- Authorized formation flights.
- Emergency situations requiring assistance from another aircraft.

NOTE: If an emergency requires visual checks of an aircraft in distress, the PIC must exercise extreme care to ensure this action does not increase the overall hazard. The capabilities of the distressed aircraft and the intentions of the crews involved must be considered before operating near another aircraft in flight.
- Command-approved maneuvers in which each participant is fully aware of the nature of the maneuver and qualified to conduct it safely (for example, interceptor attack training).

5.4. Formation Flight.
5.4.1. Nonstandard Formation Flight. Nonstandard formation flights may be conducted under the following conditions:
- When approved by ATC.
- Operating within an authorized altitude reservation (ALTRV).
- Operating under the provisions of a letter of agreement (LOA).
- Operating in airspace specifically designed for a special activity.
- Operating under Visual Flight Rules (VFR).

5.4.2. Transponder Operations During Formation Flight. Unless otherwise specified in Allied Communications Publication 160, US Supplement 1:
- Only one aircraft (normally the lead) of a standard formation will squawk the assigned code.
- All aircraft within a nonstandard formation flight will squawk the ATC-assigned Mode 3A/C beacon code until established within the assigned altitude block and closed to the proper enroute interval. Unless otherwise directed by ATC, when aircraft interval exceeds 3 NMs, both the formation leader and the last aircraft will squawk the assigned Mode 3A/C beacon code.
- During refueling, when the receiver formation is within 3 NMs of the tanker aircraft, the receiver formation squawks standby unless the T.O. specifies different distances.

5.5. Right-of-Way Rules. Usually, right-of-way is given to the aircraft least able to maneuver, which normally permits that aircraft to maintain course and speed. However, visibility permitting, each pilot must take whatever action is necessary to avoid collision, regardless of who has the right-of-way. When another aircraft has the right-of-way, the yielding aircraft must not pass over, under, abeam, or ahead of the other aircraft until well clear.
5.5.1. Distress. Aircraft in distress have the right-of-way over all other air traffic.
5.5.2. Converging. When converging at approximately the same altitude (except head-on or approximately so), the aircraft to the other's right has the right-of-way. Aircraft of different categories have the right-of-way in the following order of priority:
- Balloons.
- Gliders.
- Aircraft towing or refueling other aircraft.
- Airships.
- Rotary or fixed-wing aircraft.

5.5.3. Approaching Head-On. If aircraft are approaching each other head-on or approximately so, each shall alter course to the right.
5.5.4. Overtaking Aircraft. An overtaken aircraft has the right-of-way. The overtaking aircraft must alter course to the right.
5.5.5. Landing. An aircraft established on final approach has the right-of-way over other aircraft on the ground or in the air, except when two or more aircraft are approaching to land. In this case, the aircraft at the lower altitude has the right-of-way if it does not use this advantage to cut in front of or overtake the other.

5.6. Communication in Flight.

5.6.1. Communication With ATC. Establish and maintain two-way radio communications with the proper ATC facility or FSS IAW the procedures appropriate for the class of airspace as outlined in FLIP.
5.6.2. Emergency Frequencies. Monitor emergency frequencies at all times (unless the radio equipment on board does not have this capability).
5.6.3. Communications Failure. Follow the communications failure procedures published in the FIH.

5.7. Aircraft Speed.

5.7.1. Supersonic Flight. PICs will not allow their aircraft to operate at or above Mach l except as specified in AFI 13-201, *USAF Airspace Management*. Complete AF Form 121, **Sonic Boom Log**, for each supersonic sortie according to AFI 13-201.
5.7.2. In US Sovereign Airspace. PICs will:

- Not allow their aircraft to exceed 250 knots indicated airspeed (KIAS) below 10,000 feet mean sea level (MSL) unless the MAJCOM has approved a higher speed IAW FAR 91.117(a) exemption (see 5.7.5, FAA Speed Authorization).
- Not allow their aircraft to exceed 200 KIAS at or below 2,500 feet above the surface within 4 NMs of the primary airport of a Class C or Class D airspace area unless authorized or required by ATC, or required to maintain the minimum safe maneuvering airspeed specified in the aircraft T.O.
- Not allow their aircraft to exceed 200 KIAS in the airspace underlying a Class B airspace area designated for an airport or in a VFR corridor designated through Class B airspace area, unless required to maintain the minimum safe maneuvering airspeed specified in the aircraft T.O.

5.7.3. Outside US Sovereign Airspace. PICs will not allow their aircraft to exceed 250 KIAS below 10,000 feet MSL unless:

- Mission requirements dictate speeds in excess of 250 KIAS and operations are in international airspace.
- ICAO or host nation rules permit aircraft speeds over 250 KIAS.
- Necessary to maintain the minimum safe airspeed as specified in the aircraft T.O.
- Required by ATC and permitted by host nation rules.

5.7.4. Holding. Conduct holding at airspeeds prescribed in FLIP.
5.7.5. FAA Speed Authorization. The FAA recognizes that certain military operations and training requirements cannot be met under the terms of the Federal Aviation Regulation (FAR) 91.117 Aircraft Speed and therefore granted a speed authorization. The authorization grants an exception to aircraft having flight characteristics that preclude safe operations at speeds below 250 KIAS by providing that if the minimum safe airspeed for any particular operation is greater than the maximum speed prescribed, the aircraft may be operated at the minimum safe speed.
5.7.5.1. When the Authorization Applies. Air Force pilots may operate their aircraft below 10,000 ft. MSL, within US Airspace, in excess of 250 KIAS only under the following conditions:

- Within restricted areas.
- Within MOAs.
- When operating within MAJCOM approved large scale exercises or short-term special missions.
- Within published IFR MTRs.
- Within published VFR MTRs.
- Within defined areas or routes that have been coordinated and concurred on by the proper MAJCOM and FAA regions, but have not yet been published. This provision is intended to accommodate speed requirements on an interim basis until the area/route can be published.
- When aircraft T.O. requires or recommends a higher speed in order to maintain safe maneuverability. If the T.O. specifies a range, the aircraft should be operated at the minimum speed in that range. This provision is primarily to accommodate climbs/descents and terminal area operations.

5.7.5.2. MAJCOM Responsibilities. MAJCOMs will conduct large scale exercises in permanent or temporary special-use airspace established according to FAA Handbooks 7400.2 and 7610.4. When MAJCOMs approve large scale exercises or short term special missions they will ensure information on approved activities is available to the nonparticipating flying public and coordinate these operations with:

- Affected nonparticipating military flying units.
- Affected FAA ARTCCs.
- Affected FAA regions through the Air Force representative.
- Other agencies, as appropriate.

5.8. Alternate Navigation Procedures.

5.8.1. Area Navigation (RNAV). MAJCOMs will approve RNAV systems for enroute operations that meet the accuracy tolerances in FAA Advisory Circular 90-45A.
5.8.2. Self-Contained Approaches. MAJCOMs will publish their policy and restrictions on the use of self-contained approaches such as Airborne Radar Approaches, SCNS, or Mission Computer Approaches, in their supplement to this instruction. These approaches will be considered published if they meet the requirements of paragraph 8.3.1.1.
5.8.3. Global Positioning System (GPS). PICs will ensure compliance with the guidance presented in this section appropriate to the GPS installation in their aircraft. Air Force GPS systems are divided into three basic categories: mission enhancement systems, systems meeting FAA requirements for IFR use, and portable GPS units (PGU).
5.8.3.1. Mission Enhancement Systems. Mission enhancement systems will not be used for instrument navigation. These systems include receiver 3As, Miniaturized Airborne GPS receivers (MAGRs), or embedded GPS/INS units. These systems are intended to enhance mission capability when conducting tactical operations such as weapons delivery and airdrop.
5.8.3.1.1. Exception. MAJCOMs may approve a mission enhancement system for enroute instrument navigation if the mission GPS is used solely to update a self-contained navigation system such as INS and is checked against other NAVAIDs (ie. TACAN, VOR) IAW paragraph 5.8.1 above.
5.8.3.1.2. Instrument Approaches. Mission enhancement systems will not be used for instrument approaches unless they are part of a navigation system capable of self-contained instrument approaches as outlined in paragraph 5.8.2 above.
5.8.3.2. IFR Approved GPS. MAJCOMs will approve GPS systems for IFR use. These systems must as a minimum meet the requirements and specifications of FAA TSO C-129A.
5.8.3.2.1. Instrument Approaches. Systems that meet the specifications of FAA TSOC-129A may be used for both IFR navigation and/or GPS instrument approaches.
5.8.3.2.1.1. Approaches flown using GPS must be retrieved from a validated navigation database and shall not be manually entered.
5.8.3.3. PGUs. PGUs include commercial handheld GPS receivers, military Precision Lightweight GPS Receivers (PLGRs), and PLGRs coupled with a laptop computer that incorporates moving map displays. They are intended to be used in aircraft as situational awareness tools only. PGUs are authorized for use with the following restriction:

- PGUs shall not be used for IFR navigation, instrument approaches, or as a primary flight reference.
- PGUs are considered portable electronic devices and therefore are subject to the requirements of paragraph 2.5.1, Electronic Devices.
- MAJCOMs will specifically authorize the use of PGUs in a supplement to paragraph 2.5.1.
- MAJCOMs will approve software used in PGUs that have a moving map display.
- PGUs will not be used as a substitute for any required flight equipment listed in paragraph 2.6.
- PGUs must be adequately secured to avoid becoming a projectile hazard.
- MAJCOMs will develop programs to ensure aircrew have received proper training on these systems, before permitting their use.

5.8.3.4. GPS "Overlay"Approaches. Air Force aircraft will not fly GPS "Overlay" approaches.

5.9. Airport Operations.
5.9.1. Takeoff and Landing.
5.9.1.1. Clearances. Obtain a clearance from ATC before taxiing, taxiing onto a runway, takeoff, or landing, at an airport with an operating control tower.
5.9.1.2. Taxi Clearance. An ATC taxi clearance to or from the assigned runway that does not include hold instructions authorizes the aircraft to taxi across all other runways and taxiways enroute to or from the assigned runway.
5.9.1.2.1. Do not taxi across or onto the assigned runway without further clearance from ATC.
5.9.1.3. Uncontrolled Field Procedures. At uncontrolled fields:

- Use the runway favored by the winds if no other factors make that runway unacceptable.
- Announce your activities on the appropriate frequency. (Refer to the Aeronautical Information Manual (AIM) and AFMAN 11-217, Vol 2 for more detail.)

5.9.2. Turns After Takeoff, Low Approaches, or Closed Patterns. Do not turn after a takeoff, touch and go, or low approach until at least 400 ft. above ground level (AGL), at a safe airspeed, and past the departure end of the runway (if visible) unless:

- Specifically cleared by the controlling agency.
- Safety dictates otherwise.
- Required by local procedures.
- Executing a closed pattern.

5.9.3. Traffic Pattern Procedures.

- At Air Force installations, fly the traffic pattern published in the local flying procedures publication or FLIP, unless otherwise directed.
- At other than Air Force installations, fly traffic patterns as directed by the control tower or published in FLIP, FAR Part 91 Subpart B, or the AIM.
- At airports with no control tower, follow the standard light signals or visual indicators that prescribe the direction of traffic and landing runway. Departures must comply with the appropriate route for the airport. (Refer to AIM for detailed information.)
- Helicopters should avoid the flow of fixed-wing aircraft. Helicopters that can maintain an airspeed compatible with fixed wing traffic may fly in the rectangular pattern.

5.9.4. Helicopter Landing Areas. Helicopters may operate from other than established landing areas (fields, highways, parks, etc.) if:

- A military requirement exists and the user receives permission to use the area for landing, safeguards exist to permit operations without hazard to persons or property, and no legal objections are apparent.
- Conducting an operational mission.

5.9.5. Night Operations. PICs will adhere to the following guidance during night operations:

- Fixed wing aircraft must not be operated from a runway unless it is outlined with operating lights and clearly discernible. Covert IR runway lighting being used by qualified crews equipped with NVGs meets this requirement.
- In Alaska and other areas located north of 60° latitude, aircraft may be operated to unlighted airports during the period of civil twilight. Use the latest version of the Air Almanac or computer program "LIGHT PC" to determine or calculate light and moon data.

5.9.6. Landing Gear Reporting Procedures. Pilots operating retractable gear aircraft must report "gear down" to the ATC agency or runway supervisory unit after extending the landing gear. This report shall be made during any approach to an airport prior to crossing the runway threshold.

5.10. Altitude Requirements. Except for takeoff or landing, do not operate aircraft:

5.10.1. Emergency Landing. Below an altitude that, should an emergency landing become necessary, creates undue hazard to persons or property.

5.10.2. VFR. Under VFR above 3,000 ft. AGL at altitudes or flight levels other than those specified in FLIP. In airspace under FAA jurisdiction , these altitudes do not apply when turning or holding in a holding pattern of 2 minutes or less.

5.10.3. Congested Areas. Over congested areas (cities, towns, settlements) or groups of people if the altitude does not ensure at least 1,000 ft. above the highest obstacle within a 2,000-ft. radius of the aircraft. Helicopters may operate at lower altitudes if they do not create a hazard to persons or property on the surface.

5.10.4. Non-congested Areas. Over noncongested areas at an altitude of less than 500 ft. above the surface except over open water, in SUA, or in sparsely populated areas. Under such exceptions, pilots must not operate aircraft closer than 500 ft. to any person, vessel, vehicle, or structure. Helicopters may operate at lower altitudes if they do not create a hazard to persons or property on the surface.

5.10.5. Flight Over National Parks. Mission permitting, not less than 2,000 ft. above the terrain of the following areas: national parks, monuments, seashores, lakeshores, recreation areas, and scenic riverways administered by the National Park Service; national wildlife refuges, big game refuges, game ranges, and wildlife refuges administered by the US Fish and Wildlife Service; and wilderness and primitive areas administered by the US Forest Service. This paragraph is not applicable to special-use airspace, low-altitude tactical navigation areas, and MTRs. Higher altitudes may exist for specific areas. (See AP/1B and sectional aeronautical charts.)

5.11. Disaster Areas. Pilots shall not operate their aircraft within a designated disaster area. NOTAMs list disaster areas. Exceptions are permitted when an aircraft is:

- Aiding in airborne relief for the area.
- Going to or from an airport in the area, but does not hamper or endanger relief activities.
- On a flight that has been specifically cleared by ATC.

5.12. Altimeter Settings. Set altimeters according to FLIP General Planning and Area Planning documents.

5.13. Simulated Instrument Flight.

5.13.1. Restrictions. The following restrictions apply to simulated instrument flight:

- The aircraft must be equipped with a functional two-way radio.

- A safety observer with a current aeronautical rating(able to see outside at all times) must accompany the flight, either as a crewmember or in a chase aircraft.
- If a chase aircraft is used, maintain continuous visual contact and two-way communications between aircraft.
- Simulated instrument approaches will be conducted IAW chapter 8 of this instruction.

5.13.2. Vision Restricting Devices. MAJCOMs must approve the use of vision restricting devices (hoods, Foggles, etc.) in the supplement to this instruction.

5.13.2.1. MAJCOMs must provide specific approval for use of these devices for takeoffs and landings.

5.13.2.2. At least 2,000 ft of obstruction clearance is required when using vision restricting devices if the observer:

- Is not qualified as first pilot or copilot in the aircraft.
- Does not have full view of the flight instruments.
- Does not have access to the flight controls.
- Is in a chase aircraft.

5.14. Simulated Emergency Flight Procedures.

5.14.1. Restrictions. The following restrictions apply to simulated emergencies:

- Do not practice emergency procedures with passengers on board.
- Single pilot aircraft require day Visual Meteorological Conditions (VMC).
- Multi-pilot aircraft in day IMC require weather conditions at or above published circling minimums for the approach to be flown.
- Multi-pilot aircraft at night require weather conditions at or above 1000-ft. ceiling and 2 SMs visibility or circling minimums, whichever is higher.

5.14.1.1. MAJCOMs may authorize simulated emergencies during the period of civil twilight, in Alaska and other areas exceeding 60° latitude.

5.14.2. Required MAJCOM Guidance. MAJCOMs must publish guidance for practicing simulated emergency takeoffs, approaches, and landings. This guidance must include, as a minimum:

5.14.2.1. Procedures when an instructor pilot or flight examiner does not have immediate access to the aircraft controls.

5.14.2.2. Instructions to minimize actual engine shutdown when a reduction of power suffices.

5.14.2.3. Restrictions on the practice of fixed-wing simulated flameout (SFO) or forced landing approaches unless:

- Aircraft T.O.s furnish specific guidance for performing SFO or forced landing approaches.
- Those approaches conform to T.O. patterns.
- The preflight briefing contains SFO procedures.
- Pilots fly the approaches at military airfields or at P designated fields (where letters of agreement are in effect) that have established SFO patterns. Also, the airport must have an active tower or runway supervisory unit (RSU), enough runway for that aircraft, and proper crash and rescue equipment.
- The practice approaches are coordinated with ATC agencies responsible for the airspace that the SFO or forced landing pattern transits.

5.15. Touch-and-Go Landings.

5.15.1. Touch-and-go landings are authorized if required by courses in AFCAT 36-2223.

5.15.2. MAJCOMs may authorize touch-and-go landings in any command-operated aircraft.

5.15.3. MAJCOMs must provide explicit guidance in its command supplement about operating conditions and pilot qualifications.

5.16. Dropping Parachutists or Objects. The PIC will not allow the dropping of parachutists or objects from the aircraft except:

- In an emergency.
- When mission requirements dictate.

5.16.1. MAJCOM Responsibilities. MAJCOMs will establish procedures to ensure airdrops comply with applicable directives.

5.16.2. PIC Responsibilities. The PIC will:

- When jettisoning fuel and circumstances permit, notify the appropriate ATC or flight service facility of intentions, altitude, location, and when the operation is complete.
- Drop chaff containing rope elements according to AFR 55-34, *Reducing Flight Disturbances*, and FAA Handbook 7610.4, *Special Military Operations***.**
- Report any accidental loss of equipment or aircraft parts or jettisoning of cargo according to AFIs 10-206, *US Air Force Reporting Instructions,* and 91-402, *Investigating and Reporting US Air Force Mishaps*.

5.17. Aircraft Lighting.

5.17.1. Reduced Lighting. MAJCOMs may authorize reduced or light-out operations in restricted and warning areas in the MAJCOM supplement to this instruction.

5.17.1.1. Formation Lighting. MAJCOMs may authorize formation flights to vary their lighting configuration according to the aircraft type and mission requirement. The MAJCOM must ensure guidance on this type of operation is provided and that it ensures adequate visual identification of the formation.

5.17.2. Position Lights. Display position lights between the hours of official sunset and sunrise:

- Immediately before engine start and when an engine is running. Aircraft that do not have power available before start shall turn them on as soon as power is available.
- When parked in an area likely to create a hazard or while being towed, unless clearly illuminated by an outside source.

5.17.3. Anti-collision and Strobe Lights.

5.17.3.1. Ground Operations. Aircraft equipped with red anti-collision lights will display these lights immediately before engine start to after engine shutdown.

5.17.3.2. Airborne Operations. Anticollision or strobe lights must be on from takeoff to landing unless the PIC determines that, because of operating conditions, it would be in the best interest of safety to turn the lights off.

5.17.4. Landing Lights:

5.17.4.1. Aircraft must have at least one operable landing light.

5.17.4.2. Helicopters equipped with a search light that provides sufficient light for landing may substitute that for an operable landing light.

5.17.4.3. Landing lights will be illuminated below 10,000' MSL, day or night, within operational constraints.

5.18. Aerobatics and Air Combat Tactics. Aerobatics and air combat tactics (including air to ground) must be performed in special-use airspace, ATC-assigned airspace (ATCAA) or military training routes (MTRs) according to the guidelines in AFI 11-214, *Aircrew and Weapons Director Procedures for Air Operations.*

5.19. Participating in Aerial Events. PICs will ensure compliance with AFI 11-209, *Air Force Participation in Aerial Events,* when participating in aerial events, demonstrations, and static displays.

5.20. Smoking on Air Force Aircraft. Smoking is prohibited on Air Force or contract aircraft. For exceptions see AFI 40-102, *Smoking in Air Force Facilities.*

5.21. Landing With Hot Armament. MAJCOMs will ensure local units develop procedures for handling aircraft that land with live armament to ensure the safe conduct of such operations.

5.21.1. Before landing with hot armament or practice munitions at a non-Air Force installation or an airfield where local procedures are not known, the PIC must:

- Advise the tower of the circumstances.
- Advise transient alert and other appropriate agencies.
- Request taxi instructions to the designated de-arming area.

5.21.2. After landing with hot armament at a non Air Force installation or an airfield where the local procedures are not known, the PIC must:

- Avoid taxiing into an area or position that could threaten personnel or equipment.
- Before leaving the aircraft, ensure the ground crew is aware of the armament on board.
- If necessary, request assistance from the nearest Air Force facility by the most expeditious means.

5.22. Pilot Weather Reports (PIREP) and Air Reports (AIREP).

5.22.1. PIREPS. Pilots will immediately report hazardous weather conditions and volcanic activity to the ARTCC, terminal ATC, or FSS. Also, pilots are urged to report any significant flight condition information. Follow with a report to a pilot-to-metro service (PMSV) to ensure rapid dissemination to other using agencies. See PIREP procedures in the Flight Information Handbook.

5.22.2. AIREPS. AIREPs are usually made over areas where weather information is limited or nonexistent (for example, over an ocean). AIREPs also contain supplemental aircraft position information. MAJCOMs provide aircrew guidance on when to file an AIREP. When required, use AF Form 72, **Air Report (AIREP)**, for reporting. The pilot must brief the forecaster at the destination airfield on the weather conditions that prompted AIREPs and pass on any other significant weather information.

5.23. Operating in the Vicinity of Thunderstorms.
5.23.1. Operations into Thunderstorms. PICs shall not intentionally operate into a thunderstorm except when operating on a MAJCOM approved mission specifically requiring thunderstorm penetration.
5.23.2. Take off, Approach, and Landing. Pilots will not take off, land, or fly an approach at an airport if a thunderstorm is producing hail, strong winds, gust fronts, heavy rain, lightning, wind shear, and (or) microbursts.
5.23.3. Flight Planned Route. When observed or reported thunderstorm activity adversely affects the flight plan route, pilots will delay the scheduled mission, alter the route of flight to avoid the thunderstorm activity, or proceed to a suitable alternate. Pilots shall use all available information including radar, PMSV, and PIREPs to avoid thunderstorm activity.
NOTE: Lightning strikes and electrostatic discharges can occur in what may look like benign conditions; a thunderstorm does not have to be present for these discharges. See AFH 11-203, *Weather for Aircrews,* for detailed information on thunderstorms, lightning, and electrostatic discharge.

5.24. Wake Turbulence and Wind Shear. Pilots will:
5.24.1. Report Wake Turbulence. Notify ATC when encountering wake turbulence on any approach.
5.24.2. Report Windshear. Immediately report a windshear or microburst encounter on takeoff, approach, or landing to the most appropriate agency (control tower, approach control, PMSV) and, if possible, include:
- Altitude of the encounter.
- Loss or gain in airspeed or altitude.
- Type of aircraft.
- Location of occurrence (see AFH 11-203).

5.25. Volcanic Activity. Air Force aircraft will not be flown in an area of known or reported volcanic activity unless engaging in operations (such as rescue) specifically relating to the incident.

5.26. Night Vision Goggles (NVG) Operations. Aircrew will preflight NVGs prior to each use to ensure proper operation and optimum night visual enhancement. MAJCOMs will prescribe the use of NVGs during aircraft operations

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Chapter 6

LIFE SUPPORT SYSTEMS

6.1. General Information.
6.1.1. Indoctrination Course for Frequent Nonrated Flyers. Commanders of flying units must ensure that nonrated personnel and civilians who make regular and frequent flights receive an indoctrination course on emergency procedures and the proper use of emergency equipment. These courses must address mission and aircraft-specific equipment and procedures.
6.1.1.1. A PIC's preflight briefing does not qualify as an indoctrination course.
6.1.2. Passenger Briefing. The PIC will ensure that each passenger is briefed before flight. The briefing must include:
- Location and use of emergency exits.
- Location and use of parachutes and associated equipment (when appropriate).
- Operation of emergency signals and passenger evacuation.
- Use of the oxygen system.

6.2. Personal and Survival Equipment. MAJCOMs shall prescribe wear and use of the following equipment in conjunction with minimum standards established in relevant aircraft T.Os:
- Parachutes.
- Seat belts, harnesses, or safety belts.
- Personal equipment, including helmets, oxygen masks, anti-G equipment, flight clothing, and flight gloves.
- Aircraft survival kits and optional components.
- Individual survival equipment, including survival vests and anti-exposure suits.
- Flotation equipment, including life rafts and life preservers.
- Pressure suits above flight level (FL) 500. (MAJCOMs and ANG establish specific time and altitude limits and recovery procedures.)

6.3. Spectacles, Contact Lenses, and Night Vision Goggles (NVG).

6.3.1. Spectacles. While performing aircrew duties, crewmembers must use only those spectacles fabricated by military optical fabrication laboratories or commercial spectacles approved by HQ AFMOA/SGPA. Each local eye care clinic will maintain details regarding these specifications.

6.3.2. Contact Lenses. Crewmembers who want to wear contact lenses must consult with their unit flight surgeon and meet criteria and follow guidelines outlined in the USAF Contact Lens Implementation Plan.

6.3.3. Spare Sets. Crewmembers who wear corrective spectacles or contact lenses must carry a spare set of clear prescription spectacles on their person while performing aircrew duties.

6.3.4. NVGs. Crewmembers must undergo an initial certification course, emphasizing preflight procedures and goggle optimization or limitations, prior to their initial flight with NVGs. An appropriately trained instructor, assisted by a flight surgeon or a designated representative, will conduct this course (see AFI 48-123, *Medical Examination and Standards.*)

6.4. Oxygen Requirements. Each crewmember shall use supplemental oxygen anytime the cabin altitude exceeds 10,000 ft.

6.4.1. Unpressurized Aircraft Procedures. The following restrictions apply to aircraft that are being operated unpressurized.

- Oxygen must be provided for occupants when a flight exceeds 3 hours duration between 10,000 and 13,000 ft MSL.
- 13,000 ft MSL shall not be exceeded with occupants on board who do not have oxygen.
- FL 250 shall not be exceeded even if occupants on board have oxygen.

6.4.2. Pressurized Aircraft Procedures. Pilots flying pressurized aircraft maintaining a cabin altitude of 10,000 ft. or less, will:

- Have an oxygen mask on if flying a single pilot aircraft above FL 350.
- If flying a multi-pilot aircraft use the oxygen equipment prescribed in table 6.1.

6.4.3. PICs shall ensure that sufficient oxygen is aboard the aircraft before takeoff to fly the planned mission.

6.4.4. Procedures for Loss of Cabin Pressure:

- If the aircraft loses cabin pressure, the pilot must initiate an immediate descent to the lowest practical altitude, preferably below 18,000 ft., but in no case allow cabin altitude to remain above 25,000 ft. unless occupants are wearing functional pressure suits.
- If the aircraft loses pressure and any occupant lacks functioning oxygen equipment, the pilot must descend to maintain an altitude of 13,000 ft MSL or less and comply with paragraph 6.4. above.
- Report a loss of cabin pressurization IAW AFI 91-204, *Investigating and Reporting US Air Force Mishaps.*
- If an individual appears to be suffering decompression sickness, a crewmember should administer 100 percent oxygen to that individual. The pilot must descend as soon as practical and land at the nearest suitable installation where medical assistance can be obtained. Before the affected person may continue the flight, consult a flight surgeon or civilian aeromedical examiner. Decompression sickness may occur up to 12 hours after mission completion.

Table 6.1. Oxygen Requirements for Pressurized Aircraft.

	Pilot(s)	Flight Engineer	Other Flight Deck Crew	Cabin/ Cargo Area Crew	Pax
10,000 ft through FL250	R	R	R	A	NA
Above FL250 through FL350	One I/ One R	I	R	A	A
Above FL350 through FL410 (both pilots in seat)	I	I	R	A	A
Above FL350 through FL410 (only one pilot in seat)	One O/ One A	I	R	A	A
Above FL410 through FL450	One O/ One I	I	R	A	A
Above FL450 through FL500	One O/ One I	I	I	A	A
Above FL500	P	P	P	P	P

LEGEND:

I - Have oxygen immediately available. Crewmembers who are required to have oxygen immediately available must wear helmets with an oxygen mask attached to one side, or have available an approved quick-donning/sweep-on mask properly adjusted and positioned. Regulators shall be set to 100 percent and ON.

A - Have oxygen available. Individuals required to have oxygen available must carry portable oxygen (such as walk-around bottles) on their person anytime they are moving about the cabin/cargo area. The requirement for available can also be satisfied by placing sufficient portable oxygen units or extra oxygen outlets with masks throughout the cabin/cargo area so that any crewmember or passenger has quick access to oxygen regardless of where they are in the cabin/cargo area should a loss of pressurization occur.

O - Oxygen mask ON. Regulator ON and normal.

P - Wear a pressure suit.

R - Have oxygen readily available. Individuals required to have oxygen readily available must have a functioning system and mask located within arm's reach, and the regulator must be set to 100 percent and ON (if the system contains an operator adjustable regulator).

Chapter 7

VISUAL FLIGHT RULES (VFR)

7.1. General Information.

7.1.1. Air Force fixed-wing aircraft will fly under Visual Flight Rules (VFR) only when it is mission essential.

7.1.2. PICs will review the FLIP planning document appropriate to the area of operations to:

- Ensure that VFR operations are authorized.
- Check for any applicable restrictions.

7.1.3. If the weather prevents continued flight under VFR on the planned route, the PIC will alter the route of flight, as necessary, so as to continue operations under VFR:

- To the destination.
- Until obtaining an IFR clearance.
- To landing at a suitable location.

7.2. Weather Requirements for Filing VFR Flight Plans.

7.2.1. Fixed-Wing Aircraft. The following requirements apply to filing VFR in fixed-wing aircraft:

- The forecast weather for the planned route of flight conducted under VFR must be equal to, or greater than, l,500 ft. and 3 SMs.
- The forecast at the destination or point of changeover on a composite flight plan (a flight conducted according to both VFR and IFR) must be valid for ± 1 hour of the estimated time of arrival (ETA.)

7.2.2. Helicopters. The forecast weather for the planned route of flight to be conducted under VFR must ensure compliance with the requirements listed in tables 7.1 or 7.2 as appropriate.

7.3. Flight Operations Under VFR.

7.3.1. FAA Airspace. PICs operating under VFR in FAA airspace shall adhere to the weather minimums listed in table 7.1.

7.3.2. Non FAA Airspace. PICs operating under VFR in other than FAA airspace will:

- Adhere to the ICAO VFR weather minimums listed in table 7.2.
- Comply with restrictions published in FLIP or FCG.

7.3.3. Special VFR (SVFR).

7.3.3.1. Fixed-Wing Aircraft. Air Force fixed-wing aircraft shall not fly under SVFR.

7.3.3.2. Helicopters. Helicopters may fly under Special VFR (SVFR) with the following provisions:

- Obtain an ATC clearance.
- Remain clear of clouds.
- If operating under the clear of clouds weather criterion, fly at a speed that will allow the opportunity to see any air traffic or obstruction in time to avoid a collision.

Table 7.1. VFR Cloud Clearance and Visibility Minimums.

ITEM	A FAA Airspace Class	B Prevailing or Flight Visibility	C Distance From Cloud
1	Class A	Not Applicable	Not Applicable
2	Class B	3 SMs	Clear of Clouds
3	Class C and Class D	3 SMs	500 ft. below, 1,000 ft. above, and 2,000 ft. horizontal
4	Class E and G Below 10,000 ft. MSL (Fixed-wing)	3 SMs	500 ft. below, 1,000 ft. above, and 2,000 ft. horizontal
5	Class E and G At or above 10,000 ft. MSL (Fixed-wing)	5 SMs	1,000 ft. below, 1,000 ft. above, and 1 SM horizontal
6	Class E Below 10,000 ft. MSL (Helicopter)	3 SMs	500 ft. below, 1,000 ft. above, and 2,000 ft. horizontal
7	Class E At or above 10,000 ft. MSL (Helicopter)	5 SMs	1,000 ft. below, 1,000 ft. above, and 1 SM horizontal
8	Class G Below 1,200 ft AGL (Helicopter)	Day 1/2 SM Night: 1 SM	Clear of clouds if operated at a speed that allows the pilot adequate opportunity to see any air traffic or obstructions in time to avoid a collision.
9	Class G Above 1,200 ft AGL and Below 10,000 ft MSL (Helicopter)	Day: 1 SM Night: 3 SMs	500 ft. below, 1,000 ft. above, and 2,000 ft horizontal
10	Class G Above 10,000 ft MSL (Helicopter)	5 SMs	1,000 ft below, 1,000 ft above, and 1 SM horizontal

Table 7.2. ICAO VFR Cloud Clearance and Visibility Minimums.

ITEM	A ICAO Airspace Class	B Flight Visibility	C Distance From Cloud
1	Class A	Not Applicable	Not Applicable
2	Class B	8 KMs above 10,000'MSL. 5 KMs below 10,000' MSL	Clear of Clouds
3	Class C, D, and E	Same as Class B.	1,500 m. horizontal 300 m (1000') vertical
4	Class F and G Above 900 (3000') MSL or above 300m (1000') above terrain, whichever is higher. (Fixed-wing)	Same as Class B.	Same as Class C, D, and E.
5	Class F and G At and below 900 m (3000') or 300 m (1000') above terrain whichever is higher. (Fixed-wing)	5 KMs	Same as Class C, D, and E.
6	Class F Above 900 m (3000') or 300 m (1000') above terrain whichever is higher. (Helicopter)	8 KMs above 10,000'MSL. 5 KMs below 10,000' MSL	1,500 m. horizontal 300 m (1000') vertical.
7	Class F and G At and below 900 m (3000') or 300 m (1000') above terrain whichever is higher. (Helicopter)	5 KMs (See Note).	Clear of cloud and in sight of the surface.
8	Class G Above 900 m (3000') or 300 m (1000') above terrain whichever is higher. (Helicopter)	8 KMs above 10,000'MSL. 5 KMs below 10,000' MSL	1,500 m. horizontal 300 m (1000') vertical

NOTE: Helicopters may be permitted by ATC to operate in lower visibility conditions if maneuvered at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision

Chapter 8

INSTRUMENT FLIGHT RULES (IFR)

8.1. IFR Requirements. Air Force fixed-wing aircraft will fly under Instrument Flight Rules (IFR) to the maximum extent possible without unacceptable mission degradation.

8.1.1. Category II/III. Pilots shall not fly Category II or III approaches unless the appropriate crewmembers and the aircraft are properly certified.

8.1.1.1. MAJCOMs will certify their aircrew and aircraft.

8.1.2. IFR Required. Pilots must fly under IFR if:

- Weather conditions do not permit flight according to VFR.
- Operating in Class A airspace.
- Operating a fixed-wing aircraft within federal airways. Do not consider crossing airways as "within" airways.
- Performing instrument approaches (practice or actual; in VMC or IMC).
- Operating a fixed-wing aircraft between the hours of official sunset and official sunrise, unless the mission cannot be conducted under IFR.

8.2. ATC Clearance. Pilots must obtain an ATC clearance before commencing any IFR flight that originates in or penetrates controlled airspace.

8.3. Destination Requirements for Filing Purposes.

8.3.1. Destination with a Published Approach. Pilots may file IFR to a destination with a published instrument approach capable of being flown with navigational equipment aboard the aircraft.

8.3.1.1. Published Approach Definition. A published approach is defined as:

- Any DoD or National Oceanic Atmospheric Administration (NOAA) FLIP procedure.
- A local use procedure developed according to AFI 13-209, *Instrument Procedure Design and Publication* and approved by the host MAJCOM.
- A published radar approach. For pilots to fly a published radar approach or instrument approach procedure that requires radar to define a fix essential for flying the approach, a nonradar facility must provide a positive aircraft position within 25 NMs of the airfield. Pilots operating in Class A airspace may file to the nearest nonradar facility or fix (regardless of distance from the terminal) and request radar vector service to the terminal.
- Any product not published in a DoD or NOAA FLIP document, but approved by the MAJCOM for which an operational requirement exists. The MAJCOM Terminal Instrument Procedures (TERPS) office must review the product IAW AFI 13-209 before MAJCOM grants approval. The MAJCOM TERPS office shall inform aircrews when a product does not meet recognized obstruction clearance and (or) flight inspection criteria.

8.3.2. Destination Without a Published Instrument Approach. If there is no published approach at the destination capable of being flown with the navigational equipment aboard the aircraft, pilots may file IFR to a point enroute (where forecast weather is VMC at the time of arrival) or to a point served by a published approach procedure (where the pilot can make a descent to VMC conditions) and then continue under VFR to the destination.

8.3.3. Weather. The following are the weather requirements for filing to a destination:

8.3.3.1. Fixed-Wing Aircraft. Weather for the ETA (±1 hour) at destination or recovery base must be at or above the lowest minimum published for an approach suitable for the aircraft concerned.

8.3.3.1.1. MAJCOMs may waive this requirement when operational necessity dictates the use of a destination forecast to be below minimums, but MAJCOMs must establish alternate recovery procedures, such as the use of two or more alternate airports, additional holding fuel, etc.

8.3.3.1.2. For a straight-in or sidestep approach, the forecast weather must meet only the published visibility requirements for that approach.

8.3.3.1.3. For a circling approach, the forecast weather must meet both the ceiling and visibility requirements.

8.3.3.2. Helicopters. Helicopter pilots shall adhere to the same weather requirements as fixed-wing aircraft with the following exceptions:

- Helicopter pilots planning a fixed-wing approach procedure may use the Category A minimum descent altitude (MDA) or decision height (DH), regardless of airspeed flown. The required visibility minimum may be reduced to one-half of the published visibility minimums for Category A aircraft, but in no case may the minimums be reduced to less than 1/4 SM or 1200 ft. runway visual range (RVR).

- Helicopter pilots must use the published visibility minimums for "copter only" approaches as published.

8.3.3.3. TEMPO Conditions. Pilots may file to a destination whose forecast includes temporary (TEMPO) changes in ceiling and/or visibility that are lower than prescribed in 8.3.3.1and 8.3.3.2, but an alternate may be required (see paragraphs 8.4 and 8.5).

8.4. When an Alternate is Required. This section prescribes when an alternate must be filed.

8.4.1. Weather. The following weather requirements require the filing of an alternate.

8.4.1.1. Fixed-Wing Aircraft. Designate an alternate if, for the ETA (±1 hour) for the first point of intended landing (or each point of intended landing on a stopover flight plan), the worst weather (TEMPO or prevailing) is forecast to be less than:

- A ceiling of 3,000 ft or
- A visibility of 3 SMs or 2 SMs more than the lowest compatible published landing minimum visibility, whichever is greater (see figure 8.1).

8.4.1.2. Helicopters. Designate an alternate if, for the ETA (±1 hour) for the first point of intended landing (or each point of intended landing on a stopover flight plan), the worst weather (TEMPO or prevailing) is forecast to be less than:

- A ceiling of 700 ft, or
- A visibility of 1 SM (see figure 8.2).

8.4.2. **Additional Items Requiring an Alternate.**

8.4.2.1. Regardless of weather, pilots must designate an alternate airport on all IFR flight plans when filing to a destination requiring any of the following to fly the planned approach.

- Radar.
- GPS is the only available NAVAID.
- An unmonitored NAVAID.

NOTE: An unmonitored NAVAID will be indicated either in a NOTAM or in a FLIP product. The ⚠NA designation for example is used on NOAA plates. If a suitable approach is available that does not carry the ⚠NA designation, an alternate is not required. The ⚠NA applies only to the individual instrument approach, not the entire airport. Jeppesen indicates the alternate NA in the airport diagram plate in the block designated "For Filing As An Alternate. "

8.4.3. Exception for Remote or Island Destinations. MAJCOMs may authorize holding for a specified time in lieu of an alternate for those remote or island destinations for which designating an alternate is not possible.

8.4.3.1. MAJCOMs that authorize holding at a remote or island destination must set up weather criteria and recovery procedures.

8.5. Selecting an Alternate.

8.5.1. Weather. For an airport to qualify as an alternate, the worst weather (TEMPO or prevailing) for the ETA (±1 hour) at the alternate airport must be forecast to be at or above the following:

8.5.1.1. With a Published Instrument Approach Procedure:

- **Fixed-wing Aircraft.** A ceiling of at least 1,000 ft. or 500 ft. above the lowest compatible published landing minimum, whichever is higher, and a visibility of 2 SMs or 1 SM above the lowest compatible published landing minimum, whichever is higher (see figure 8.1).
- **Helicopters.** A ceiling of at least 700 ft. or 500 ft. above the lowest compatible published landing minimum, whichever is higher, and a visibility of 1 SM or 1/2 SM above the lowest compatible published landing minimum, whichever is higher (see figure 8.2).

8.5.1.2. Without a Published Instrument Approach Procedure. Forecast weather for the ETA (±1 hour) must permit a VFR descent from the IFR enroute altitude to a VFR approach and landing.

8.5.2. ⚠NA Designation. Do not specify an airport as an alternate if the approach plate for the required runway carries the ⚠NA designator.

NOTE: In addition to indicating an unmonitored NAVAID as discussed in 8.4.1. Note, the ⚠NA designator may also indicate that weather reporting service is not available.

8.5.3. Unmonitored NAVAID. Do not designate an airport as an alternate if the approach required to be flown is based on a NAVAID that has been NOTAMed as being unmonitored.

8.5.4. GPS Approach Only Airport. Do not specify an airport as an alternate if the only approach available is a GPS approach.

Figure 8.1. Fixed-Wing Weather (WX) Requirements.

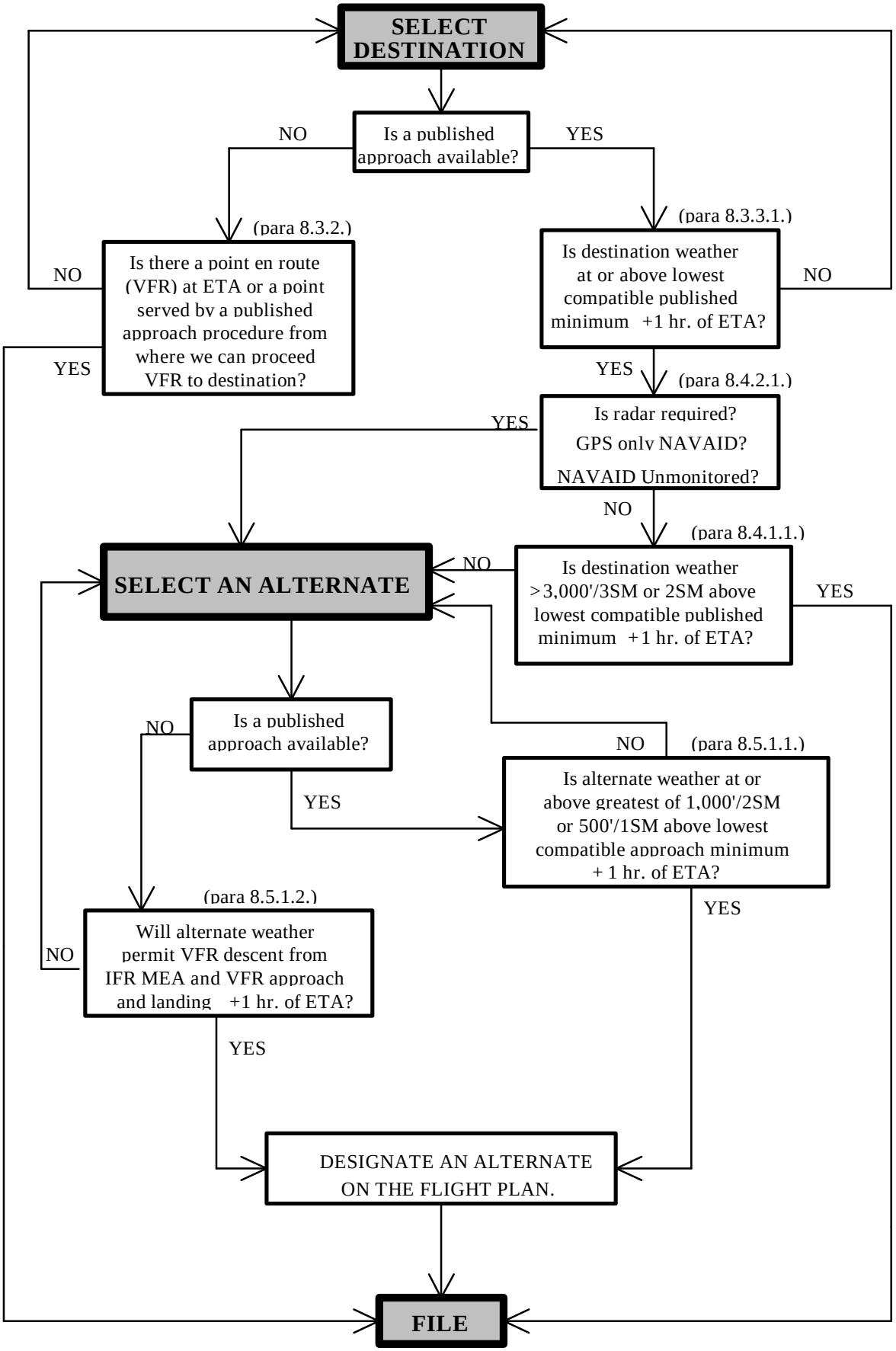
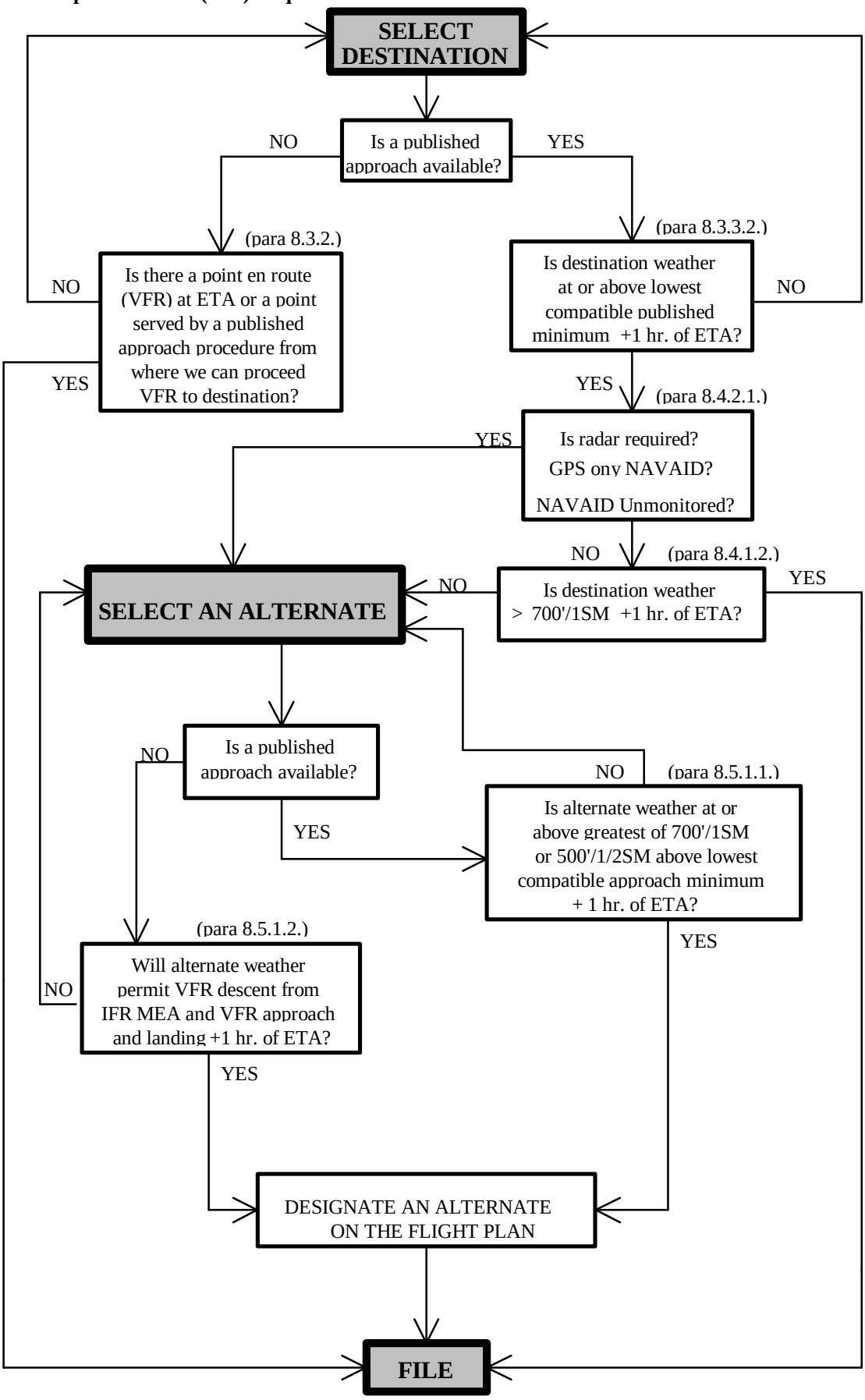


Figure 8.2. Helicopter Weather (WX) Requirements.



8.6. Takeoff Minimums. Pilots must not take off unless the existing weather is at or above the minimum prescribed by the MAJCOM to which the pilot is assigned or attached for flying.

8.6.1. In the absence of MAJCOM-established takeoff minimums, pilots may not take off when existing weather is below landing minimums for the specific aircraft.

8.6.2. MAJCOMs that permit takeoffs when existing weather is lower than the published landing minimums for the base of departure must develop substitute recovery procedures.

8.6.3. Civil contract carriers can operate from airports under Air Force jurisdiction using the takeoff minimums approved by the FAA and published in the air carrier's operations specifications.

8.7. IFR Departures.

8.7.1. See and Avoid. Pilots will not use nonstandard takeoff minimums in order to "see and avoid" obstacles while flying Standard Instrument Departures (SIDs) or Instrument Departure Procedures.

8.7.2. Authorized IFR Departure Methods. There are three authorized methods of departing IFR:

- Radar Vectors.
- SIDs.
- Published Instrument Departure Procedures.

NOTE: This does not restrict aircraft already airborne from departing IFR via a the published missed approach procedure for the instrument approach being flown.

8.7.2.1. Radar Vectors. Pilots are responsible for terrain and obstacle clearance until a radar vector is issued by ATC.

NOTE: The use of the term "Radar Contact" by a controller does not mean that a vector has been issued or that terrain and obstruction clearance responsibility has transferred to the controller. That responsibility transfers when a vector is issued.

8.7.2.2. SIDs. The PIC will ensure that their aircraft can meet or exceed any published climb gradient.

8.7.2.3. Published Instrument Departure Procedures. Pilots will fly the Instrument Departure Procedure as published for the runway used if radar vectors or a SID are not available.

8.7.2.3.1. The PIC will ensure their aircraft can meet or exceed any published climb gradient.

8.7.3. No Authorized IFR Departure Method. If the airport does not have radar service, a SID, or a published Instrument Departure Procedure, then an IFR departure is not authorized. The weather at takeoff must permit a VFR climb to an IFR MEA, an appropriate minimum IFR altitude as described in paragraph 8.9, or an altitude where radar vectors can be provided.

8.7.4. Additional Guidance. Pilots must also adhere to the guidance published in AFMAN 11-217 *Instrument Flight Procedures*. Vol 1.

8.8. Minimum Altitudes.

8.8.1. On Airways. Pilots shall not fly lower than the MEA or MOCA published for the airway.

8.8.1.1. Pilots using the MOCA shall ensure that the altitude selected will provide suitable navigation facility and ATC radio communication reception.

8.8.2. Off Airways. Pilots shall fly no lower than the OROCA or ORTCA.

8.8.2.1. Pilots using the OROCA, or ORTCA shall ensure that the altitude selected will provide suitable navigation facility and ATC radio communication reception.

8.8.3. MTRs. Pilots operating on MTRs shall adhere to the minimum altitudes published in FLIP Area Planning.

8.9. IFR Cruising Altitudes.

8.9.1. Pilots should file requested altitudes for IFR flights in controlled airspace according to the cruising altitude diagram depicted on the appropriate enroute chart.

8.9.2. Pilots operating in uncontrolled airspace shall maintain altitude IAW the diagrams published on the appropriate enroute chart.

8.10. IFR Enroute Navigation. Pilots shall fly along the centerline of the direct course between NAVAIDs or fixes defining a published or unpublished route when, operating in controlled airspace under IFR unless:

- Authorized by the controlling agency.
- Operating in special-use airspace or on MTRs.

8.11. In-Flight Communications.

8.11.1. Position Reports. A pilot operating under IFR will continuously monitor appropriate ATC frequencies and follow Flight Information Handbook (FIH) instructions for position reports, lost communications, and radio procedures.

8.11.2. Navigation and Communication Equipment Malfunctions. When operating in controlled airspace under IFR, the PIC will immediately report to ATC the loss or impairment of navigational or air-to-ground communications capability according to instructions in the FIH.

8.12. Cancellation of IFR Clearance.
8.12.1. Cancellation. Pilots shall ensure compliance with chapter 7 and paragraph 8.1 of this instruction before canceling IFR.
8.12.1.1. Pilots who cancel IFR shall ensure that a VFR flight plan is in effect for the remainder of the flight to ensure flight following.
8.12.1.2. Paragraph 8.12.1.1 does not apply if in radio contact with the destination tower.

8.13. Approach and Landing.
8.13.1. Prior to Descent or Approach. Pilots shall not begin an enroute descent or published approach if the weather required for the approach is below the required minimums.
8.13.1.1. Straight-In or Sidestep Approach. Weather must only be at or above the published visibility minimums.
8.13.1.2. Circling Approach. Weather must be at or above both the published ceiling and visibility minimums.
8.13.1.3. Helicopter Minima. Helicopter pilots using a fixed-wing approach procedure may use the Category A minima regardless of airspeed flown. The required visibility minimum may be reduced to one-half of the published visibility minimums for Category A aircraft, but in no case may the minimums be reduced to less than 1/4 SM or 1200 ft. runway visual range (RVR). Helicopter pilots must use the published visibility minimums for "Copter Only" approaches as published.
8.13.2. After Beginning Descent or Approach. If a pilot has begun the enroute descent or published approach and subsequently determines the weather is below minimums (visibility for straight-in approaches or either ceiling or visibility for circling approaches), the pilot must not deviate from the last ATC clearance until obtaining a new or amended clearance. The pilot may elect to:

- Request clearance to a holding fix or alternate airport as applicable.
- When authorized by the MAJCOM, continue the approach as published to the missed approach point and land, if the aircraft is in a position to make a safe landing and the runway environment (as defined in AFMAN 11-217) is in sight.

8.13.3. Determining DH/MDA. Pilots shall determine minimum approach altitudes (DH or MDA) with the barometric altimeter except:

- When flying a Category II/III ILS approaches , use the radar altimeter to determine Decision Height and use the barometric altimeter as a supporting instrument.
- For all other approaches, MAJCOM supplements direct the use of radar altimeters.

8.13.4. Descent Below DH/MDA. The pilot will not operate an aircraft below the prescribed MDA or continue an approach below the DH unless:

- The aircraft is in a position to make a normal approach to the runway of intended landing; and
- The pilot clearly sees the approach threshold of the runway, approach lights, or other markings identifiable with the approach end of that runway.

8.13.5. Executing the Missed Approach. If on arrival at the missed approach point or DH (or at any time thereafter) any of the requirements in paragraph 8.13.4 above are not met, the pilot must immediately execute the appropriate missed approach procedure.

8.14. Determining Visibility Minimums.
8.14.1. Pilots must use Runway Visual Range (RVR). Prevailing Visibility (PV) may be used when RVR is not available.
8.14.2. Inoperative Approach Lighting. Pilots shall increase the published visibility minimums of an instrument approach by 1/2 SM when the runway approach lighting system (ALS) is inoperative.
NOTE: This paragraph applies only to the approach light system (ALS) itself, not to VASIs, PAPIs and other lights that are not a component of the ALS.

8.15. IFR "VFR on Top." MAJCOMs may authorize IFR "VFR on Top" operations if a specific mission requires such clearances.

8.16. Operations Within the Minimum Navigation Performance Specifications (MNPS) Airspace.
8.16.1. MAJCOMs may approve the use of navigation equipment that meets the accuracy tolerances of FAA Advisory Circular 120-33.
8.16.2 MAJCOMs will notify HQ AFFSA of the type aircraft and equipment approved.

8.16.3 Aircraft meeting the North Atlantic Track Minimum Navigation Performance Specifications (NAT MNPS) requirements meet the Canadian Minimum Navigation Performance Specifications (CMNPS) requirements.

8.16.3.1. Pilots operating aircraft in NAT airspace designated as MNPS must comply with requirements specified in FLIP AP/2, Chapter 5.

8.16.3.2. Pilots operating aircraft in CMNPS airspace must comply with the requirements specified in FLIP AP/1, Chapter 3.

8.16.3.3. HQ AFFSA must approve waivers to the requirements of NAT MNPS and/or CMNPS airspace.

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GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

References

Allied Communication Publication (ACP) 160, US Supplement 1
AFCAT 36-2223, *US Air Force Formal Schools* (formerly AFR 50-5)
AFH 11-203, *Weather for Aircrews* (formerly AFM 51-12)
AFI 10-206, *US Air Force Reporting Instructions* (formerly AFR 55-55)
AFI 10-701, *Performing Electronic Countermeasures in the United States and Canada* (formerly AFR 55-44)
AFI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Materials* (formerly AFR 55-14)
AFI 11-207, *Flight Delivery of Aircraft* (formerly AFR 55-17)
AFI 11-209, *Air Force Participation in Aerial Events* (formerly AFR 60-18)
AFI 11-214, *Aircrew and Weapons Director Procedures for Air Operations* (formerly AFR 55-79)
AFI 11-215, *Flight Manuals Procedures* (formerly AFR 60-9)
AFI 11-218, *Aircraft Operation and Movement on the Ground* (formerly AFR 60-11)
AFI 13-201, *US Air Force Airspace Management* (formerly AFR 55-2)
AFI 13-203, *Air Traffic Control* (formerly AFR 60-5)
AFI 13-207, *Preventing/Resisting Aircraft Piracy (FOUO)* (formerly AFR 60-14)
AFI 13-208, *Security Control of Air Traffic and Air Navigation Aids (SCATANA)* (formerly AFR 60-24)
AFI 13-209, *Instrument Procedure Design and Publication* (formerly AFR 60-27)
AFI 15-114, *Weather Support Evaluation*
AFI 23-206, *Emergency Procurement of Ground Fuels, Oil, and Other Supplies and Services at Non-DoD Locations* (formerly AFR 67-24)
AFI 24-204, *Preparing Hazardous Materials for Military Air Shipments* (formerly AFR 71-4)
AFI 36-2212, *Flight Management* (formerly AFR 60-1)
AFI 40-102, *Smoking in Air Force Facilities* (formerly AFR 30-27)
AFI 44-117, *Ophthalmic Services* (formerly AFR 167-3)
AFI 48-123, *Medical Examination and Standards* (formerly AFR 160-43)
AFI 90-301, *Administrative Inquiries and Investigations* (formerly AFR 120-3)
AFI 91-202, *Hazardous Air Traffic Report (HATR) Program* (formerly AFR 127-3)
AFI 91-204, *Investigating and Reporting US Air Force Mishaps* (formerly AFR 127-4)
AFI 91-404, *The US Air Force Mishap Prevention Program* (formerly AFR 127-2)
AFM 55-9, *Terminal Instrument Procedures (TERPS)*
AFMAN 11-208, *The US Military Notice to Airmen (NOTAM) System* (formerly AFR 55-16)
AFMAN 11-210, *Instrument Refresher Course* (formerly AFP 60-19,V1, 3, 4)
AFMAN 11-217, *Instrument Flying* (formerly AFM 51-37)
AFP 51-45, *Electronic Combat Principles*
AFP 64-5, *Aircrew Survival*
AFP 64-15, *Survival and Emergency Uses of the Parachute*
AFPAM 11-216, *Air Navigation* (formerly AFM 51-40)
AFPD 11-3, *Life Support* (formerly AFR 55-27)
AFPD 13-2, *Air Traffic Control, Airspace, Airfield, and Range Management* (formerly AFR 55-48)
AFR 9-1, *The Air Force Forms Management Program*
AFR 55-34, *Reducing Flight Disturbances*
FAA Advisory Circular 90-45A, *Approval of Area Navigation Systems for Use in the U.S. National Airspace System*
FAA Advisory Circular 120-33, *Operational Approval of Airborne Long Range Navigation Systems for Flight Within the NAT-MNPS Airspace*
FAA Handbook 7110.65, *Air Traffic Control*
FAA Handbook 7400.2, *Procedures for Handling Airspace Matters*
FAA Handbook 7610.4, *Special Military Operations*
FAA Handbook 8260.19, *Flight Procedures and Airspace*
FAR Part 91, *General Operating and Flight Rules*
FAA TSO-129a, *Airborne Supplemental Navigation Equipment Using the Global Positioning System (GPS)*
T.O.-00-20-1, *Preventive Maintenance Program, General Policy Requirements and Procedures*
T.O.-00-20-5, *Aircraft, Drone, Aircrew Training Devices, Engines, and Air-Launched Missile Inspections, Flight Reports, and Supporting Documents*

T.O.-00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding (ATOS)*
T.O.-1-IB40, *Weight and Balance Data*
T.O.-1-IB-50, *Basic T.O. for USAF Aircraft Weight and Balance*
T.O. 1-1-300, *Acceptance/Functional Check Flight and Maintenance Operational Checks*

Abbreviations and Acronyms

ADIZ	Air Defense Identification Zone
AFFSA	Air Force Flight Standards Agency
AGL	Above Ground Level
AIREP	Air Report
ANG	Air National Guard
AOE	Airport Of Entry
ARA	Airborne Radar Approach
ARCP	Air Refueling Control Point
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
CMNPS	Canadian Minimum Navigation Performance Standards
CONUS	Continental United States
DH	Decision Height
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FCG	USAF Foreign Clearance Guide
FL	Flight Level
FLIP	Flight Information Publication
FOD	Foreign Object Damage
FSS	Flight Service Station
ft.	Feet
GPS	Global Positioning System
HDD	Head-Down Display
HUD	Head-Up Display
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
KIAS	Knots Indicated Airspeed
LRA	Landing Rights Airport
MAJCOM	Major Command
MDA	Minimum Descent Altitude
MEA	Minimum Enroute Altitude
MNPS	Minimum Navigation Performance Specifications
MOA	Military Operations Area
MOCA	Minimum Obstruction Clearance Altitude
MSL	Mean Sea Level

MTR	Military Training Route
NAT	North Atlantic Track
NAVAID	Navigational Aid
NM	Nautical Mile
NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notices to Airmen
NVG	Night Vision Goggle
OROCA	Off Route Obstruction Clearance Altitude
ORTCA	Off Route Terrain Clearance Altitude
PIREP	Pilot Report
PGU	Portable GPS Unit
PMSV	Pilot-to-Metro Service
PV	Prevailing Visibility
RA	Radar Altitude
RNAV	Area Navigation
RSU	Runway Supervisory Unit
RVR	Runway Visual Range
RVV	Runway Visibility Value
SARP	Standards and Recommended Practices
SFO	Simulated Flameout
SM	Statute Mile
SUA	Special Use Airspace
TEMPO	Temporary
TERPS	Terminal Instrument Procedures
T.O.	Technical Order
TSO	Technical Standard Order
USAFR	United States Air Force Reserve
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
WX	Weather

Terms

Aerobatics--Intentionally performed spins, vertical recoveries, and other maneuvers that require pitch and bank angles greater than 90 degrees.

Air Combat Tactics--A general term which includes basic fighter maneuvers, air combat maneuvers, and air combat tactics.

FAA Authorization--An authorization is an official written FAA document which provides the grantee relief from specified parts of the Federal Aviation Regulation (FARs).

FAA Exemption--An exemption is an official written FAA document which provides the grantee relief from specified parts of the Federal Aviation Regulation (FARs).

Formation Flight--More than one aircraft which, by prior arrangement between the pilots, operates as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the

formation are maneuvering to attain separation from each other to effect individual control and during joinup and breakaway. Such a group is treated for ATC purposes as a single aircraft.

Fuel Reserve--The amount of usable fuel that must be carried on each aircraft, beyond that required to complete the flight as planned.

GPS "Overlay" Approaches--These are instrument approaches that have been approved for use with GPS based on an existing traditional instrument approach such as a VOR or NDB approach.

Instrument Meteorological Conditions--Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling less than the minima specified for visual meteorological conditions.

Minimum Fuel--Indicates that an aircraft's fuel supply has reached a state where, upon reaching the destination, it can accept little or no delay. This is not an emergency situation but merely indicates an emergency situation is possible should any undue delay occur.

Nonstandard Formation--Operating under any of the following conditions:

a. When the flight leader has requested and ATC has approved other than standard formation dimensions.
b. When operating within an authorized altitude reservation (ALTRV) or under the provisions of a letter of agreement.
c. When the operations are conducted in airspace specifically designed for a special activity.

OROCA--An off-route altitude which provides obstruction clearance with a 1000' foot buffer in nonmountainous terrain areas and a 2,000 foot buffer in designated mountainous areas within the United States. This altitude may not provide signal coverage from ground-based navigational aids, air traffic control radar, or communications coverage.

ORTCA--An off-route altitude which provides terrain clearance with a 3,000 foot buffer from terrain. This altitude may not provide signal coverage from ground-based navigational aids, air traffic control radar, or communications coverage. This altitude is used on enroute charts covering those areas outside the United States.

P Airfield--Civil airport wherein permit covers use by transient military aircraft.

Standard Formation--One in which a proximity of no more than 1 NM horizontally and within 100 ft. vertically from the flight leader is maintained by each wingman.

Stopover Flight--A flight where intermediate stops are planned enroute to a final destination.

Unmonitored Navigational Aid--A NAVAID must be monitored, for maintenance purposes, by a staffed ATC facility or other agency for it to be considered operational. Unmonitored NAVAIDs listed in the IFR supplement may not be operational and or may provide unreliable navigational information.

Visual Meteorological Conditions (VMC)--Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.